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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,686	09/08/2003	Jianqi He	P16909	1243
28062	7590	10/14/2004	EXAMINER	
BUCKLEY, MASCHOFF, TALWALKAR LLC			PAREKH, NITIN	
5 ELM STREET			ART UNIT	PAPER NUMBER
NEW CANAAN, CT 06840			2811	

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/657,686

Applicant(s)

HE ET AL

Examiner

Nitin Parekh

Art Unit

2811

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-13 is/are rejected.
- 7) ☒ Claim(s) 14 and 20-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Applicant's election without traverse of Embodiment III, claims 10-14 and 20-25, in Paper No. 3 is acknowledged.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall (US Pat. 3757029) in view of Tang (US Pat. 6776658).

Regarding claims 10, 11 and 13, Marshall discloses a device having a multilayered cable (see 64 in Fig. 10), the cable comprising:

- a first set of conductors (not numerically referenced- see conductive strips within covering 70 in Fig. 10; also see Col. 4, line 44; Col. 5, line 35) electrically couplable to a conventional wiring/ones of first conductive elements, the first set of conductors to receive electrical signals/input/output (I/O) signals from the respective wiring/first conductive elements

- a second set of conductors (not numerically referenced- see conductive strips within covering 66 in Fig. 10; also see Col. 4, line 44; Col. 5, line 35) electrically couplable to a conventional wiring/ones of second conductive elements, the second set of conductors to receive electrical signals/input/output (I/O) signals from the respective wiring/second conductive elements
- a middle conductor/conductors (not numerically referenced- see conductive wires within covering 68 in Fig. 10; also see Col. 4, line 44; Col. 5, line 35) disposed between the first set of conductors and the second set of conductors and being electrically isolated from the first and second set of conductors by plastic layers (see 66/68/70 in Fig. 10), and
- a cover/housing (see 72 in Fig. 10) to physically package/couple the first set of conductors to the second set of conductors

(Fig. 10; Col. 6, lines 1-25; Col. 3-7).

Marshall fails to teach the first and second conductive elements being on an upper and lower surface of a package respectively.

Tang teaches a conventional electrical cable-connector package assembly comprising the electrical cable and a connector package (3 and 5 in Fig. 1-3 respectively), the assembly further comprising:

- the cable having first and second set of conductors/wires (see 31 in Fig. 3)

- the connector package having an upper surface having third conductive solder pads/elements (see 33/220 in Fig. 3) disposed thereon and a lower surface having fourth conductive solder pads/elements (see 33/220 in Fig. 3) disposed thereon
- the connector package further including first and second conductive elements (see 203 and 21/210 in Fig. 3 respectively), and
- the third and fourth conductive solder pads/elements being electrically coupled to respective first and second set of conductors/wires (see the connection of 31 and 33/220 in Fig. 3) on an upper and lower surface of the connector package respectively and further being configured to receive ones of the first and second conductive elements through respective wiring (see Fig. 3; Col. 2, line 30- Col. 3, line 65).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the first and second conductive elements being on an upper and lower surface of a package respectively as taught by Tang so that the desired spacing between the conductive elements can be achieved and shorting can be prevented in Marshall's device.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall (US Pat. 3757029) and Tang (US Pat. 6776658) as applied to claims 10 and 11 above, and further in view of Thomas (US Pat. 3612744).

Marshall and Tang teach substantially the entire claimed structure as applied to claims 10 and 11 above, except the middle conductor being a ground plane.

Thomas teaches a conventional multilayered electrical cable (see Fig. 1, 3, etc.) having a plurality of signal/power and ground layers/planes where a configuration/arrangement of ground or signal planes can be selected/rearranged to achieve the desired impedance, capacitance and other electrical characteristics as per application requirements (Col. 2, lines 25-40; Col. 3, lines 3-50; Col. 2-9).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the middle conductor being a ground plane as taught by Thomas so that the desired electrical characteristics and noise suppression can be achieved in Tang and Marshall's device.

***Allowable Subject Matter***

5. Claims 14-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Reasons for Allowance***

6. The following is an examiner's statement of reasons for allowance:

The references of record do not teach either singularly or in combination at least the limitations "wherein the upper surface and the lower surface face one another" in a connector having third and forth conductive elements on upper and lower surfaces respectively such that the third and forth conductive elements are connected to first and second set of conductors and further received/mated with a first and second conductive elements in upper and lower surfaces of a substrate package in an assembly interconnection including a cable having a first and second set of conductors, a connector and the substrate package.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Parekh whose telephone number is 571-272-1663. The examiner can normally be reached on 09:00AM-05:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

NP

10-09-04



NITIN PAREKH

PATENT EXAMINER

Technology Center 2800